



NEW MILLENNIUM PROGRAM

Technology Partnerships and Access to Space

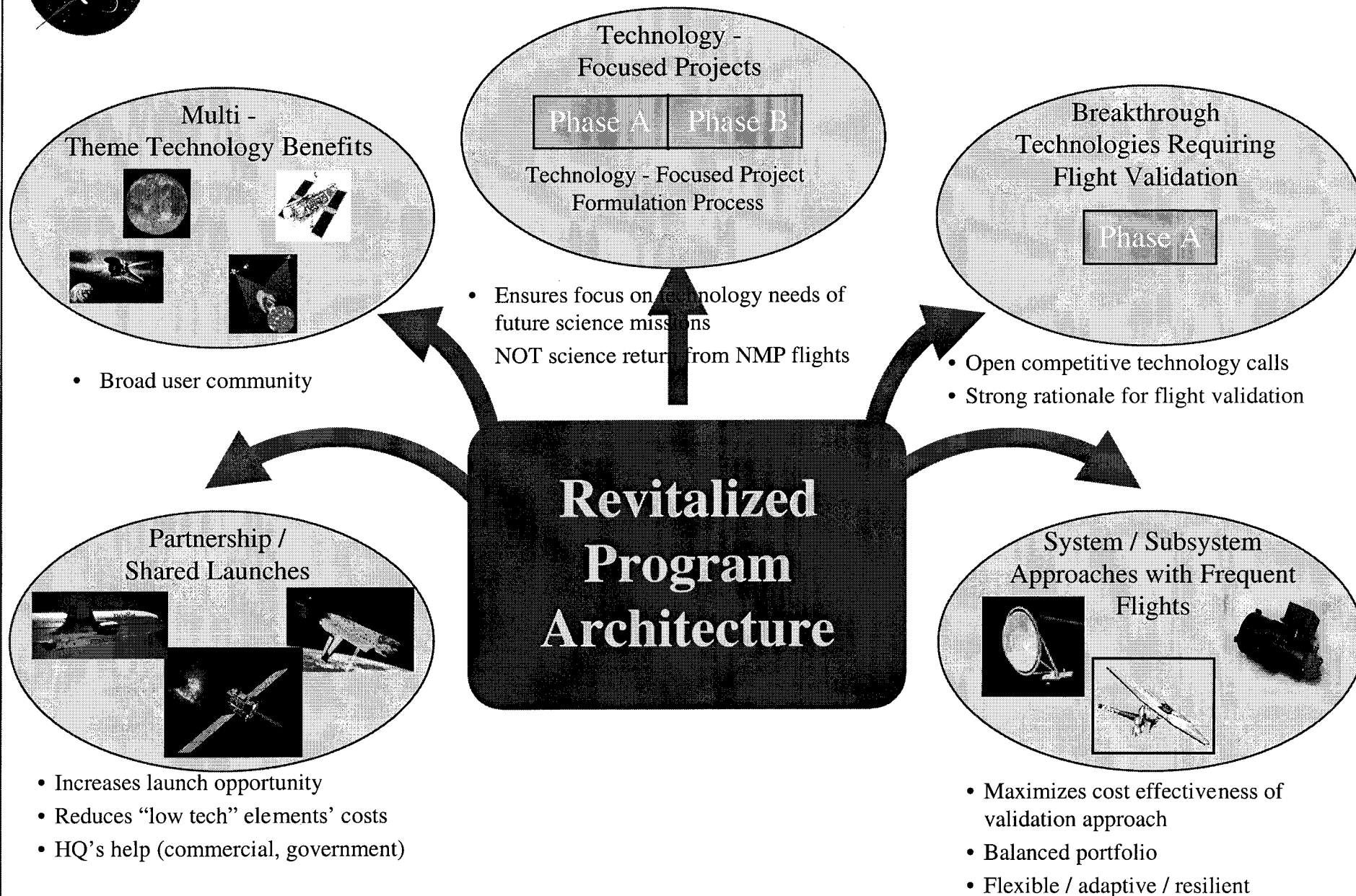
Christopher Stevens

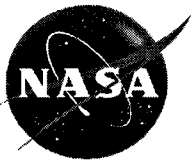
Jet Propulsion Laboratory, California Institute of Technology

August 23, 2000

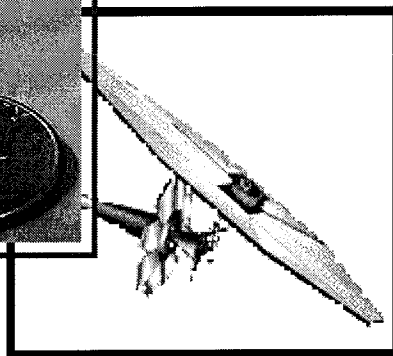
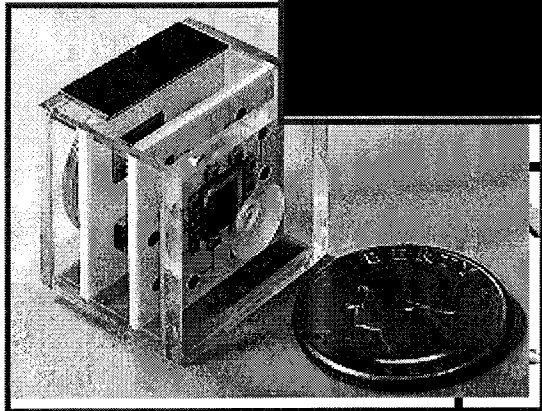
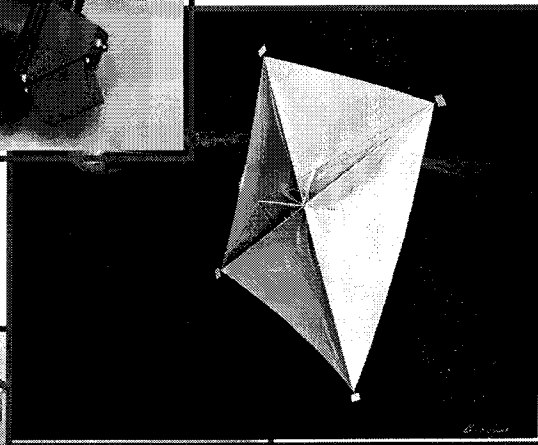
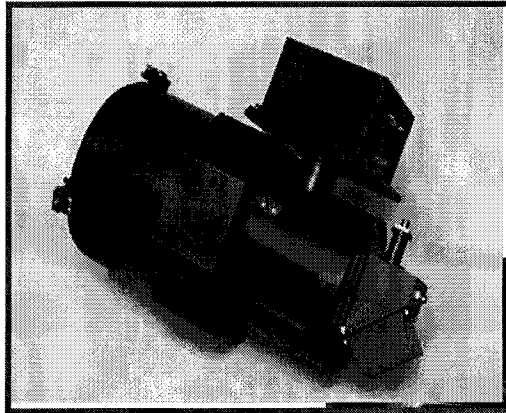


Program Attributes





Sub-System Technology Validation



- Yearly flight opportunities for several sub-systems as stand-alone units on flights-of-opportunity or on a space technology carrier
- NASA hosts carrier flight on regular basis
- Flights of opportunity (FOO)
 - Other NASA missions, Shuttle, DoD & commercial flights



NMP Subsystem Validation Partnerships



Technology development partnerships:

- Funds other than NMP funds that can be invested in the development of the candidate technology to contribute to the production the flight article to be validated
 - Technology Provider combines funding from sources other than NMP with NMP funds to produce the article for flight validation
 - Two or more technology providers team to leverage their funds to add to NMP funds to provide article for flight validation

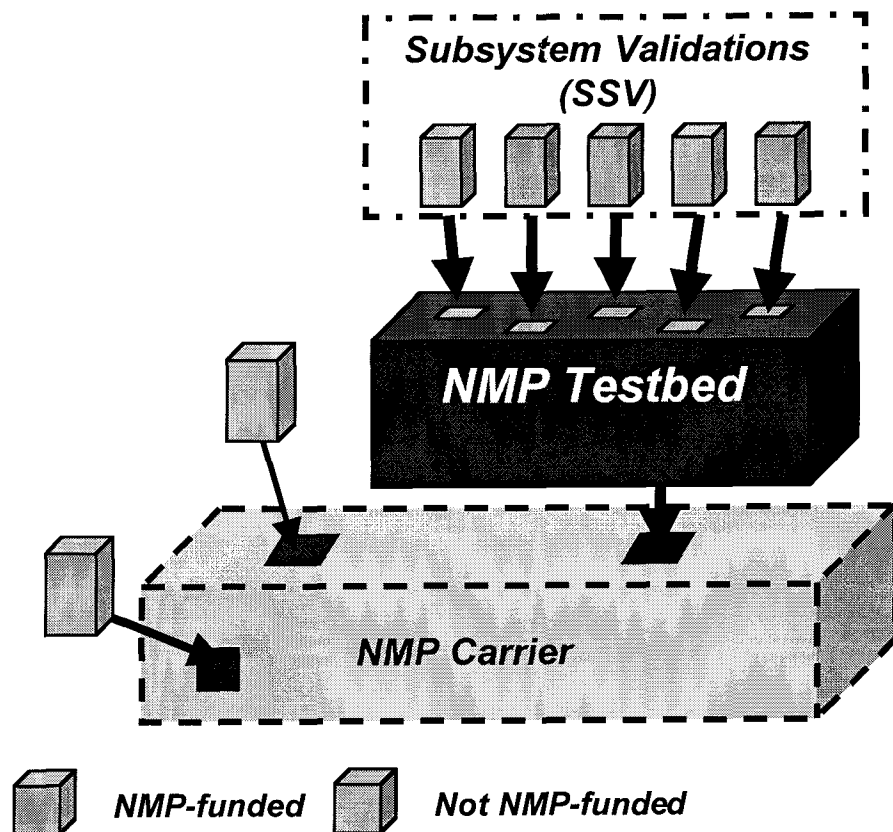
Access to space partnerships:

- Funds other than NMP funds that can be directed to defraying costs of piggyback or secondary launch for technology subsystem
 - Technology provider secures agreement for commitment of excess launch capacity to NMP subsystem accommodation where NMP pays the integration cost
 - NMP provides access to space on NM carrier in exchange for accommodation on partner's carrier

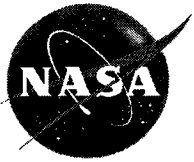


Testbeds for Sub-system Technology Validations

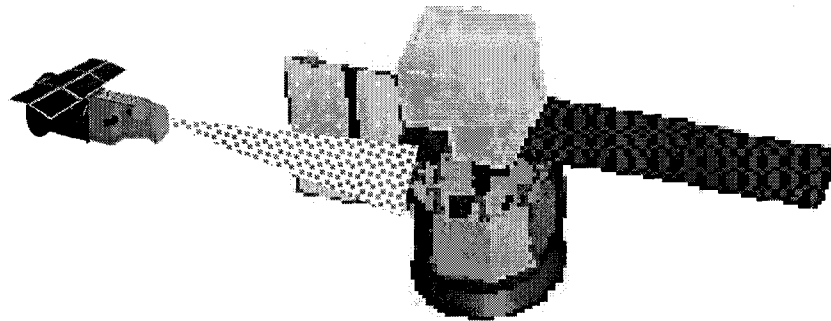
NMP



- Definition: Common support hardware & software to validate several subsystems or components
 - Facilitates harvesting subsystems & components developed in & outside space science
 - Outside space science = Industry, other NASA technology development programs, other government agencies



Example of Possible Partnership/Access-to-Space Opportunity



- XSS11 is an Air Force Research Laboratory mission for technology demonstration
 - target launch in '04
- Strawman mission concept includes a regular-technology main spacecraft and a high-technology microspacecraft
- Discussions conducted with AFRL on possible partnership
 - AFRL expressed primary interest in autonomous rendezvous technologies
 - NMP requested possibility of accommodating other technologies
 - AFRL indicated willingness to examine NMP technology needs for areas of mutual interest